| Total Number of Pages in This Submission 3 | TRANSMITTA FORM (to be used for all correspondence a | Filing Date First Named Inventor Art Unit Examiner Name | PTO/SB/21 (08-03) Approved for use through 08/30/2003. OMB 0651-0031 atent and Trademark Office; U.S. DEPARTMENT OF COMMERCE ection of information unless it displays a valid OMB control number. 10/709,103 04/14/2004 Kuo-Wen CHEN | | |
|--|--|---|---|--|--|
| Fee Transmittal Form Drawing(s) | Total Number of Pages in This Subm | sion 3 Attorney Docket Number | OTMP0075USA | | |
| Fee Transmittal Form Drawing(s) | | ENCLOSURES (Check all 1 | that apply) | | |
| Firm Winston Hsu Reg No : 41 526 | Fee Attached Amendment/Reply After Final Affidavits/declaration Extension of Time Request Express Abandonment Request Information Disclosure State Certified Copy of Priority Document(s) Response to Missing Parts/ Incomplete Application Response to Missing | Drawing(s) Licensing-related Papers Petition Petition to Convert to a Provisional Application Power of Attorney, Revocation Change of Correspondence Act Terminal Disclaimer Request for Refund CD, Number of CD(s) Remarks Parts | After Allowance communication to Technology Center (TC) Appeal Communication to Board of Appeals and Interferences Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) Proprietary Information Status Letter Other Enclosure(s) (please | | |
| I WINSION ASU REGINO 1415/b | Firm | | | | |
| Individual name | | | | | |
| Signature Winslandson | | | | | |
| Date 4177900 | | | | | |
| CERTIFICATE OF TRANSMISSION/MAILING | | | | | |
| I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below. Typed or printed name | | | | | |

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Signature

Date



Signature

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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Date

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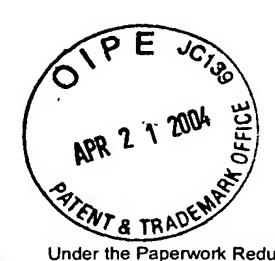
| CEE TO AND | CNAITTAI | Complete if Known | | |
|---|-----------|----------------------|--------------|---------------------------------------|
| FEE TRANSMITTAL | | Application Number | 10/709,103 | · · · · · · · · · · · · · · · · · · · |
| for FY | 2004 | Filing Date | 04/14/2004 | |
| | | First Named Inventor | Kuo-Wen CHEN | |
| Effective 10/01/2003. Patent fees are subject to annual revision. | | Examiner Name | | - |
| Applicant claims small entity status. See 37 CFR 1.27 | | Art Unit | | |
| TOTAL AMOUNT OF PAYMENT | (\$) 0.00 | Attorney Docket No. | OTMP0075USA | |

| TOTAL AWOUNT OF PATIVIENT (\$) 0.00 | Attorney Docket No. OTMP0075USA | | | |
|---|---|-------------|--|--|
| METHOD OF PAYMENT (check all that apply) | FEE CALCULATION (continued) | | | |
| Check Credit card Money Other None | 3. ADDITIONAL FEES | | | |
| Deposit Account: | Large Entity Small Entity | | | |
| Deposit | Fee Fee Fee Fee Fee Description Code (\$) Code (\$) Fee Pai | . | | |
| Account 50-0801 | Code (\$) Code (\$) 1051 130 2051 65 Surcharge - late filing fee or oath | <u>-</u> | | |
| Denosit | 1052 50 2052 25 Surcharge - late provisional filing fee or | \dashv I | | |
| Account North America International Patent Office | cover sheet | $\dashv I$ | | |
| The Director is authorized to: (check all that apply) | 1053 130 1053 130 Non-English specification | | | |
| Charge fee(s) indicated below Credit any overpayments | 1812 2,520 1812 2,520 For filing a request for ex parte reexamination | ⊣ I | | |
| Charge any additional fee(s) or any underpayment of fee(s) | 1804 920* 1804 920* Requesting publication of SIR prior to Examiner action | ⅃ ┃ | | |
| Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account. | 1805 1,840* 1805 1,840* Requesting publication of SIR after Examiner action | _]] | | |
| FEE CALCULATION | 1251 110 2251 55 Extension for reply within first month | _] [| | |
| | 1252 420 2252 210 Extension for reply within second month | ∤ | | |
| 1. BASIC FILING FEE Large Entity Small Entity | 1253 950 2253 475 Extension for reply within third month | | | |
| Fee Fee Fee Fee Description Fee Paid | 1254 1,480 2254 740 Extension for reply within fourth month | | | |
| Code (\$) Code (\$) 1001 770 2001 385 Utility filing fee | 1255 2,010 2255 1,005 Extension for reply within fifth month | | | |
| 1002 340 2002 170 Design filing fee | 1401 330 2401 165 Notice of Appeal | | | |
| 1003 530 2003 265 Plant filing fee | 1402 330 2402 165 Filing a brief in support of an appeal | \Box I | | |
| 1004 770 2004 385 Reissue filing fee | 1403 290 2403 145 Request for oral hearing | | | |
| 1005 160 2005 80 Provisional filing fee | 1451 1,510 1451 1,510 Petition to institute a public use proceeding | \Box | | |
| | 1452 110 2452 55 Petition to revive - unavoidable | \Box | | |
| SUBTOTAL (1) (\$) 0.00 | 1453 1,330 2453 665 Petition to revive - unintentional | | | |
| 2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE | 1501 1,330 2501 665 Utility issue fee (or reissue) | \Box | | |
| Extra Claims below Fee Paid | | $\exists I$ | | |
| Total Claims20** = X = | 1503 640 2503 320 Plant issue fee | | | |
| Independent - 3** = X = = | 1460 130 1460 130 Petitions to the Commissioner | | | |
| Multiple Dependent = | 1807 50 1807 50 Processing fee under 37 CFR 1.17(q) | | | |
| Large Entity Small Entity | 1806 180 1806 180 Submission of Information Disclosure Stmt | | | |
| Fee Fee Fee <u>Fee Description</u> Code (\$) Code (\$) Code (\$) | 8021 40 Recording each patent assignment per property (times number of properties) | | | |
| 1202 18 2202 9 Claims in excess of 20 1201 86 2201 43 Independent claims in excess of 3 | 1809 770 2809 385 Filing a submission after final rejection (37 CFR 1.129(a)) | | | |
| 1203 290 2203 145 Multiple dependent claim, if not paid | 1810 770 2810 385 For each additional invention to be | \exists | | |
| 1204 86 2204 43 ** Reissue independent claims over original patent | examined (37 CFR 1.129(b)) 1801 770 2801 385 Request for Continued Examination (RCE) | | | |
| | 1801 770 2801 385 Request for Continued Examination (RCE) 1802 900 1802 900 Request for expedited examination | - | | |
| 1205 18 2205 9 ** Reissue claims in excess of 20 and over original patent | of a design application | | | |
| SUBTOTAL (2) (\$) 0.00 | Other fee (specify) | <u></u> | | |
| **or number previously paid, if greater, For Reissues, see above | *Reduced by Basic Filing Fee Paid SUBTOTAL (3) (\$) 0.00 | | | |
| SUBMITTED BY (Complete (if applicable)) | | | | |
| Name (Distance 1) | Registration No. 44 500 Tatanhana 00000007050 | | | |
| Warne (Print Type) VVINSION HSU | (Attorney/Agent) 41,326 Telephone 860203237330 | | | |

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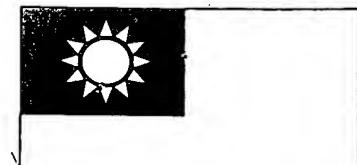


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DECLARATION — Supplemental Priority Data Sheet

| Additional foreign applications: | | | | |
|--|--------------|-------------------------------------|-------------------------|---------------------------------|
| Prior Foreign Application Number(s) | Country | Foreign Filing Date (MM/DD/YYYY) | Priority Not Claimed | Certified Copy Attached? YES NO |
| 092110249 | Taiwan R.O.C | 04/29/2003 | | |
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्र यिष्ठ यिष्ठ यिष्ठ :



中華民國經濟部智慧財產局

INTELLECTUAL PROPERTY OFFICE MINISTRY OF ECONOMIC AFFAIRS REPUBLIC OF CHINA

茲證明所附文件,係本局存檔中原申請案的副本,正確無訛,其申請資料如下:

This is to certify that annexed is a true copy from the records of this office of the application as originally filed which is identified hereunder:

申 請 日:西元 2003 年 04 月 29 日 Application Date

申 請 案 號: 092110249 Application No.

申 /請 人: 中強光電股份有限公司 Applicant(s)

局

長

Director General







發文日期: 西元 2004年 1月12日

Issue Date

發文字號: 09320040750

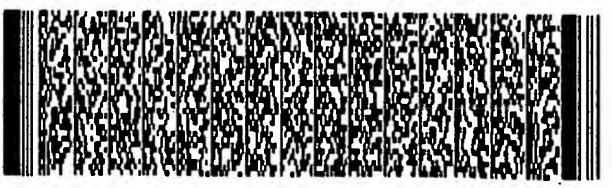
Serial No.

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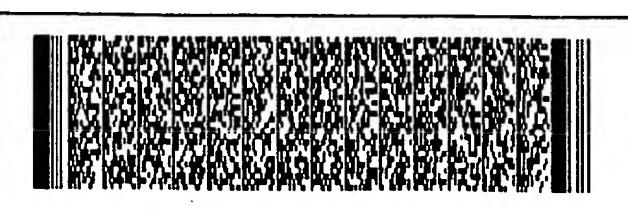
| 以上各欄 | 由本局填註) | 發明專利說明書 |
|--------------|--------------------------|---|
| | 中文 | 光機組裝方法及裝置 |
| 後明名稱 | As 英文 | Assembling method and apparatus for light engine |
| | 姓 名 1. (中文) | . 陳國文 |
| <u>-</u> | 姓 名 1. (英文) | . Kuo-Wen Chen |
| 發明人 (共1人) | 國籍 (中英文) 1. | . 中華民國 TW |
| | 住居所 (中 文) | .新竹科學工業園區新竹市力行路11號 |
| | <i>/</i> T | .No. 11. Li Hsin Rd. Science-Based Industrial Park, Hsinchu, Taiwan, R.O.C. |
| | 名稱或 1. 姓 名 (中文) | . 中強光電股份有限公司 |
| -• | 名稱或 1. 姓 名 (英文) | .Coretronic Corporation |
| Ξ | 國 籍 (中英文) 1. | . 中華民國 |
| 申請人(共1人) | 住居所 1. (營業所) (中 文) | .新竹科學工業園區新竹市力行路11號 (本地址與前向貴局申請者相同) |
| ٠. | 住居所 1. (營業所) (英 文) | No. 11. Li Hsin Rd. Science-Based Industrial Park, Hsinchu, Taiwan, R.O.C. |
| | 代表人 (中文) | . 張威儀 |
| • | 代表人 1. | . Wade Chang |

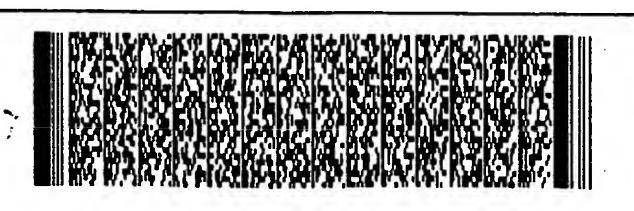


四、中文發明摘要 (發明名稱:光機組裝方法及裝置)

陸、英文發明摘要 (發明名稱:Assembling method and apparatus for light engine)

The invention is provided an assembling method and apparatus for light engine. The method includes the steps of fixing a light engine on the carrier, placing it into a casing, providing an adjusting apparatus installed outside of the casing and connected to the carrier, adjusting the positions of light engine, fixing the carrier to the casing via the glue, and removing the

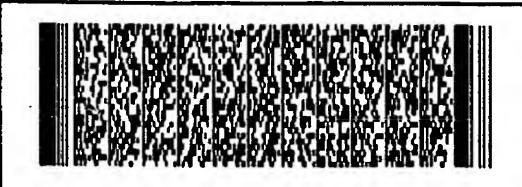




四、中文發明摘要 (發明名稱:光機組裝方法及裝置)

陸、英文發明摘要 (發明名稱:Assembling method and apparatus for light engine)

adjusting apparatus to assemble the light engine to the casing. Therefore, it can reduce the assembling time and cost, and the adjusting apparatus and carrier can be applied to various light engines.



四、中文發明摘要 (發明名稱:光機組裝方法及裝置)

伍、(一)、本案代表圖為:第<u>3A</u>圖

(二)、本案代表圖之元件代表符號簡單說明:

光 機

2 1

承載座

2 2

調整裝置

2 3

夾爪

2 3 1

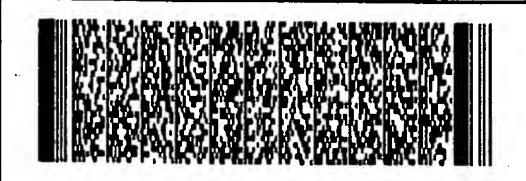
滑 軌

2 4

殼 體

2 5

陸、英文發明摘要 (發明名稱:Assembling method and apparatus for light engine)



| 一、本案已向 | | | |
|----------------|-----------|----------|-----------------|
| 國家(地區)申請專利 | 申請日期 | 案號 | 主張專利法第二十四條第一項優先 |
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| 二、□主張專利法第二十 | 五條之一第一項優 | 先權: | |
| 申請案號: | | • | |
| 日期: | | | • |
| 三、主張本案係符合專利 | 法第二十條第一項 | □第一款但建战 | □第二款但書規定之期間 |
| 日期: | | | |
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| 四、□有關微生物已寄存 | 於國外: | | |
| 寄存國家: 寄存機構: | | , | |
| 寄存日期: | | | |
| 寄存號碼: | | | |
| □有關微生物已寄存 | 於國內(本局所指定 | E之寄存機構): | |
| 寄存機構: 寄存日期: | | | • |
| 寄存號碼: | | | |
| □熟習該項技術者易 | 於獲得,不須寄存。 | • | |
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五、發明說明 (1)

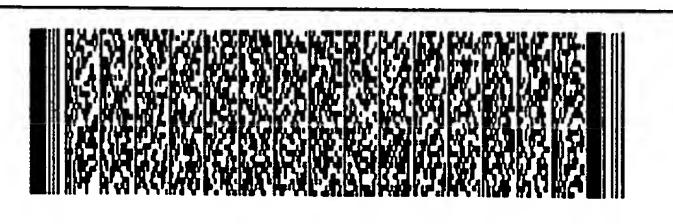
【發明所屬之技術領域】

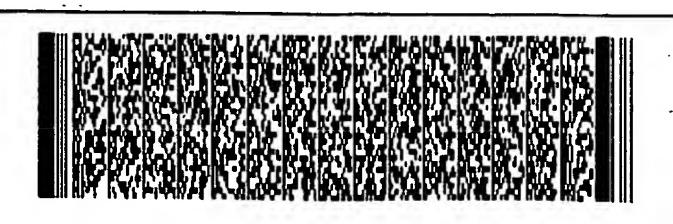
本發明係有關背投影電視,尤其關於背投影電視中光機組裝方法及裝置。

【先前技術】

請參閱第1圖所示,習知背投影電視係由光機1產生一影像光東需經複數個反射鏡2A、2B反射,曲折光路徑以縮小體積,由於光東經數次反射,必須精確對準光東投射方向,才能將影像光東投射於螢幕3上。

由於光機係於殼體內進行調整工作,因此易受限空間而導致調整耗時而增加組裝工時;另調整裝置需隨機裝設,且其為體積龐大之層疊式結構,因此將增加系統成本及體積。





五、發明說明 (2)

【發明內容】

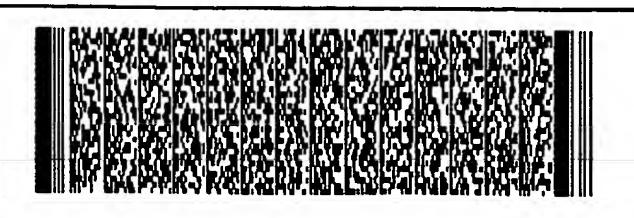
本發明之一目的,係提供一種光機組裝方法及裝置,先將光機固設於一承載座上,後置於一殼體內,再利用殼體外之調整裝置調整承載座,調整後以填膠固定承載座,以達到縮短組裝工時、降低成本及縮小系統體積

本發明之另一目的,係提供一種光機組裝方法及裝置,利用調整裝置夾持承載座以進行光機調整,使得調整裝置不受光機結構及空間限制,而增加使用彈性。

【實施方式】

有關本發明為達到上述目的,所採用之技術手段及其餘功效,茲舉一較佳實施例,並配合圖式加以說明如下:

請參閱第3A圖所示,本發明之光機組裝裝置,係先將光機21固定於承載座22上,再將一前端具有夾

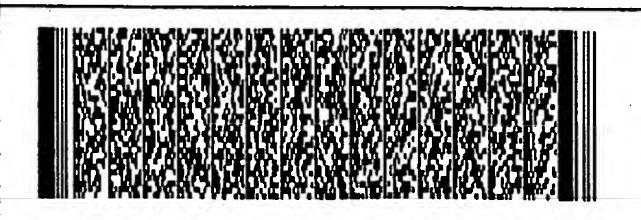


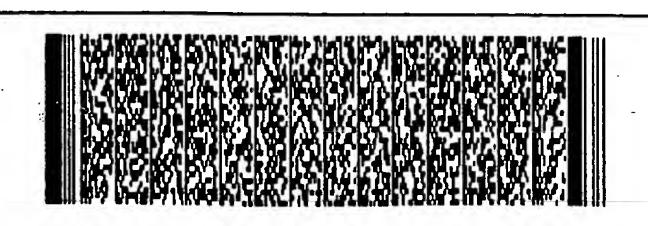


五、發明說明 (3)

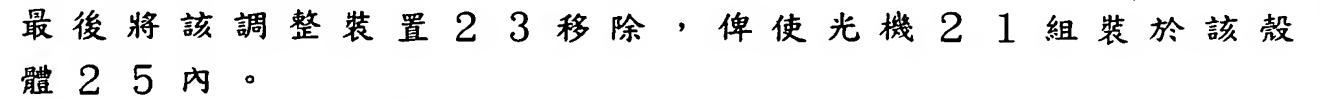
爪231之調整裝置23設置於一滑軌24上,該夾爪 可設置開關以控制其開啟或關閉,然後利用夾爪 閉以夾持住承載座22,請參閱第3B 圖 所 示 軌24使調整裝置23沿Y軸向移動 利 用 滑 22置入一殼體25內,僅調整裝 置 2 3 31伸置於殼體25內,該承載座22上與 殼體 設有相對應之通孔221與固定柱25 1,當承載座2 2 置於該殼體25內時,可藉由通孔2 2 1 與 固 定 柱 2 51相配合而定位,且通孔221與固定柱25 有間隙,以供調整移動空間;接著,利用調整裝 調整承載座 22之位置及角度,使其上之光機21對準 該調整裝置23可為多軸調整之夾治具;調 ,請參閱第3C圖所示,將黏劑注入通孔22 5 1 間之間隙,再利用紫外光照射,使黏 劑迅速固化, 將承載座22與殼體25形成結合; 圖所示,最後,將夾爪231開啟使承載 夾持,再利用滑軌24將調整裝置23沿Y軸反 方向移動,至夾爪231於殼體25外,而完成光機2 1 組裝。

因此,請參閱第4圖,本發明光機組裝方法其步驟包括:首先將一光機21固設於一承載座22上,然後置於一般體25內,再提供一調整裝置23並挾持該承載座22,接著利用調整裝置23於殼體外進行光機21位置調整,待調整完成後以填膠固定該承載座22,





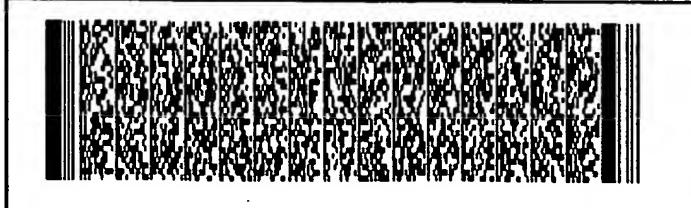
五、發明說明 (4)





另外,本發明光機組裝方法中不需直接夾持光機2 1進行調整,而藉由夾持承載座22之輔助,因此進行不同光機組裝時,僅需利用相同承載座22與調整裝置23夾持承載座21置於承載座22上,再利用調整裝置23夾持承載座22以進行光機21調整,因此不致產生夾持困難或無法夾持之問題,而可使用於各種機種,故可增加使用彈性。

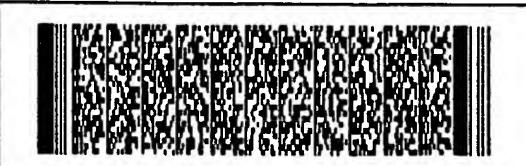
請參閱第5圖所示,當光機31需進行更多軸向調整時,可採用複數個承載座32A、32B疊設而成,且每一承載塊32A、32B對應有一調整裝置33A、33B,使得調整功能可分散於每一組調整裝置,而簡化調整裝置之複雜性及縮短調整工時,達到降低組裝成本。





五、發明說明 (5)

以上所述,僅用以方便說明本發明之較佳實施例,本發明之範圍不限於該等較佳實施例,凡依本發明所做的任何變更,於不脫離本發明之精神下,皆屬本發明申請專利範圍。



圖式簡單說明 "

【圖式簡要說明】

第1圖,係習知背投影電視之側視圖。

第2圖,係習知光機調整裝置圖。

第3A圖、第3B圖、第3C圖、第3D圖,係本發

明光機組裝方法之示意圖。

第4圖,係本發明光機組裝方法流程圖。

第5圖,係本發明光機組裝方法採用之調整裝置與承

載座外觀圖。

【圖號簡要說明】

光機 21

承 載 座 2 2

通孔 221

調 整 裝 置 2 3

夾 爪 2 3 1

滑 軌 2 4

設 體 2 5

固定柱. 251

光 機 3 1

承載座 32A、32B

調整裝置 33A、33B



六、申請專利範圍

- 1、一種光機組裝方法,係包括:
 - (A)將一光機固設於一承載座上,再置於一殼體內;
 - (B)提供一調整裝置並連接於該承載座;
 - (C)利用調整裝置於殼體外進行光機位置調整;
 - (D)填膠固定該承載座;以及
 - (E)移除該調整裝置。
- 2、如申請專利範圍第1項所述之光機組裝方法,其中該調整裝置前端設置有至少一夾爪,藉由該夾爪夾持該承載座。
- 3、如申請專利範圍第1項所述之光機組裝方法,其中該承載座具有至少一通孔,該殼體內設有至少一固定柱,當承載座置於該殼體內時,可利用通孔與該固定柱相配合而定位。
- 4、如申請專利範圍第3項所述之光機組裝方法,其中該填膠固定承載座包括: 將膠劑填充於通孔與固定柱間;以及
 - 利用照射紫外光束将膠劑固化,而固定承載座。
- 5、如申請專利範圍第2項所述之光機組裝方法,其中該承載座可利用複數個承載座層疊而成,且每一承載座各有一夾爪夾持調整。
- 6、一種光機組裝裝置,其包括:
 - 一 殼體,其內部具有至少一固定柱;
 - 至少一承載座,係用以供一光機承載,且相對應於



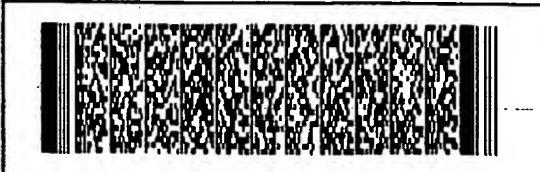


六、申請專利範圍

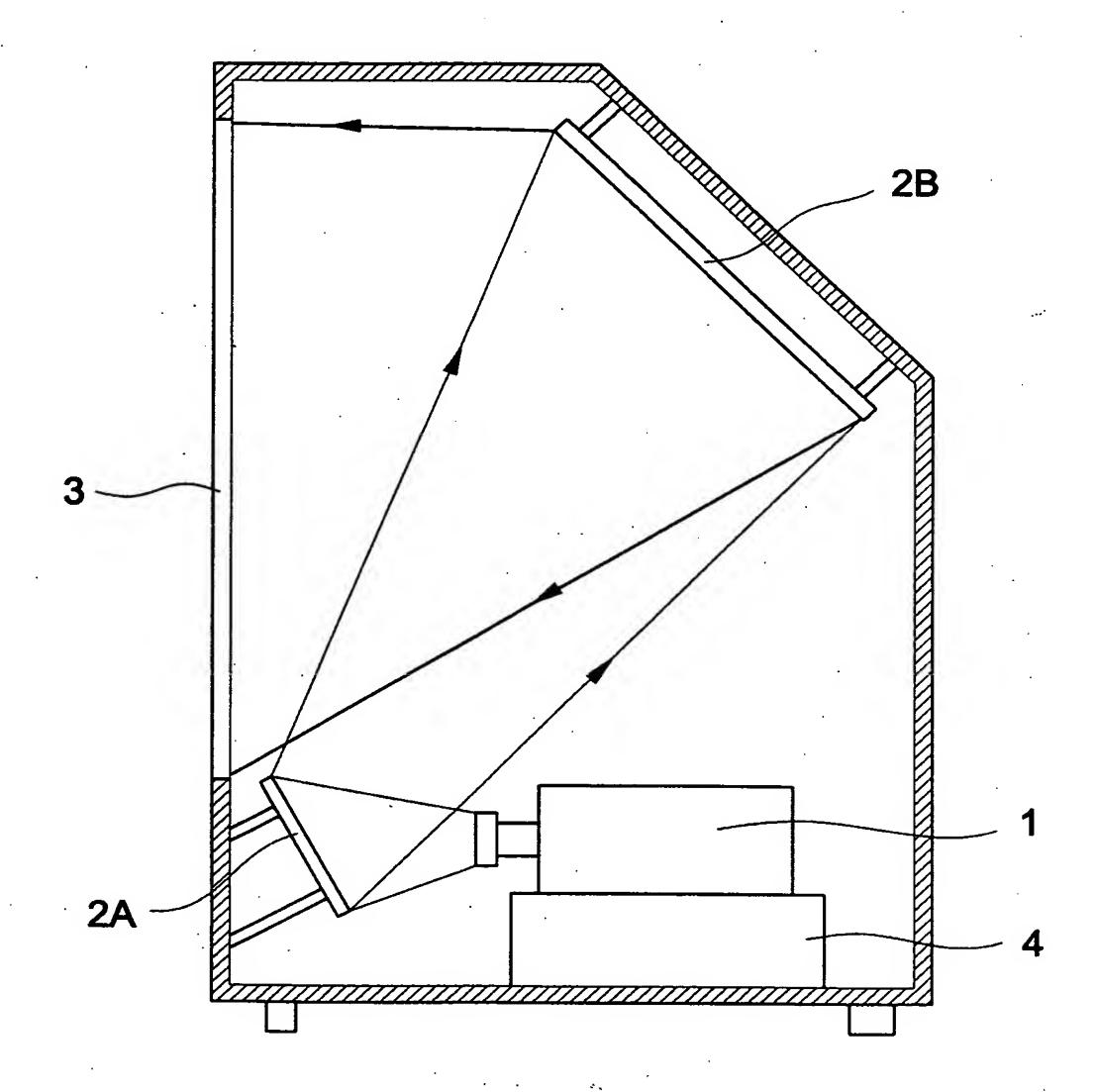
該固定柱設有通孔;



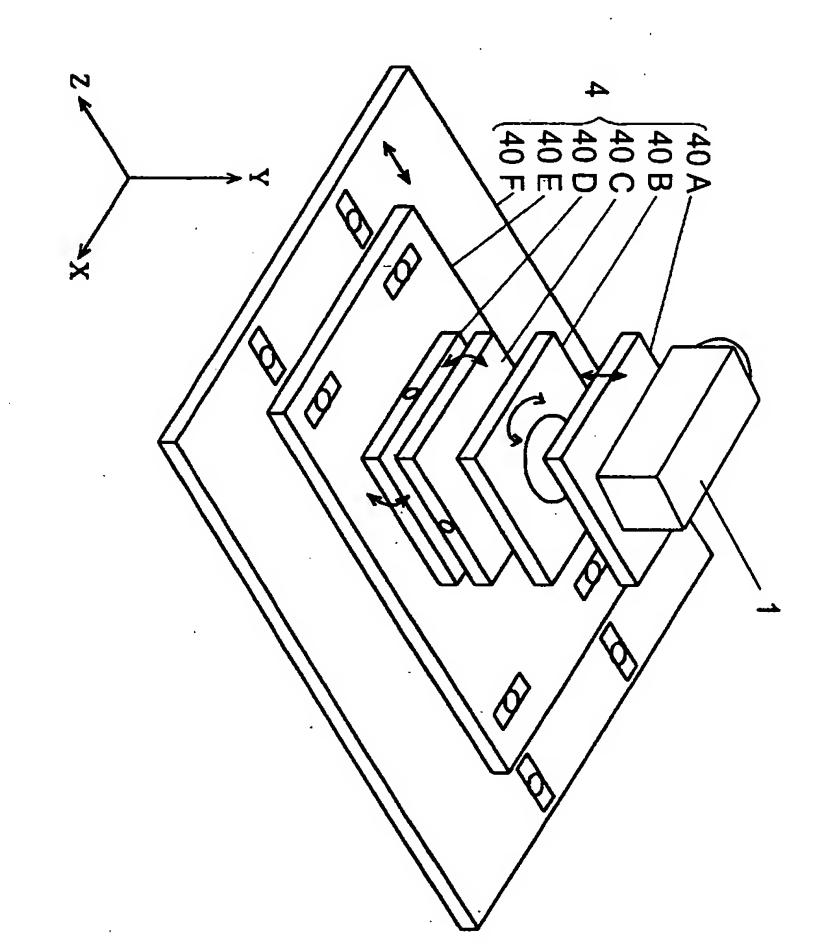
一黏劑,係用以將該承載座固定於該殼體內。





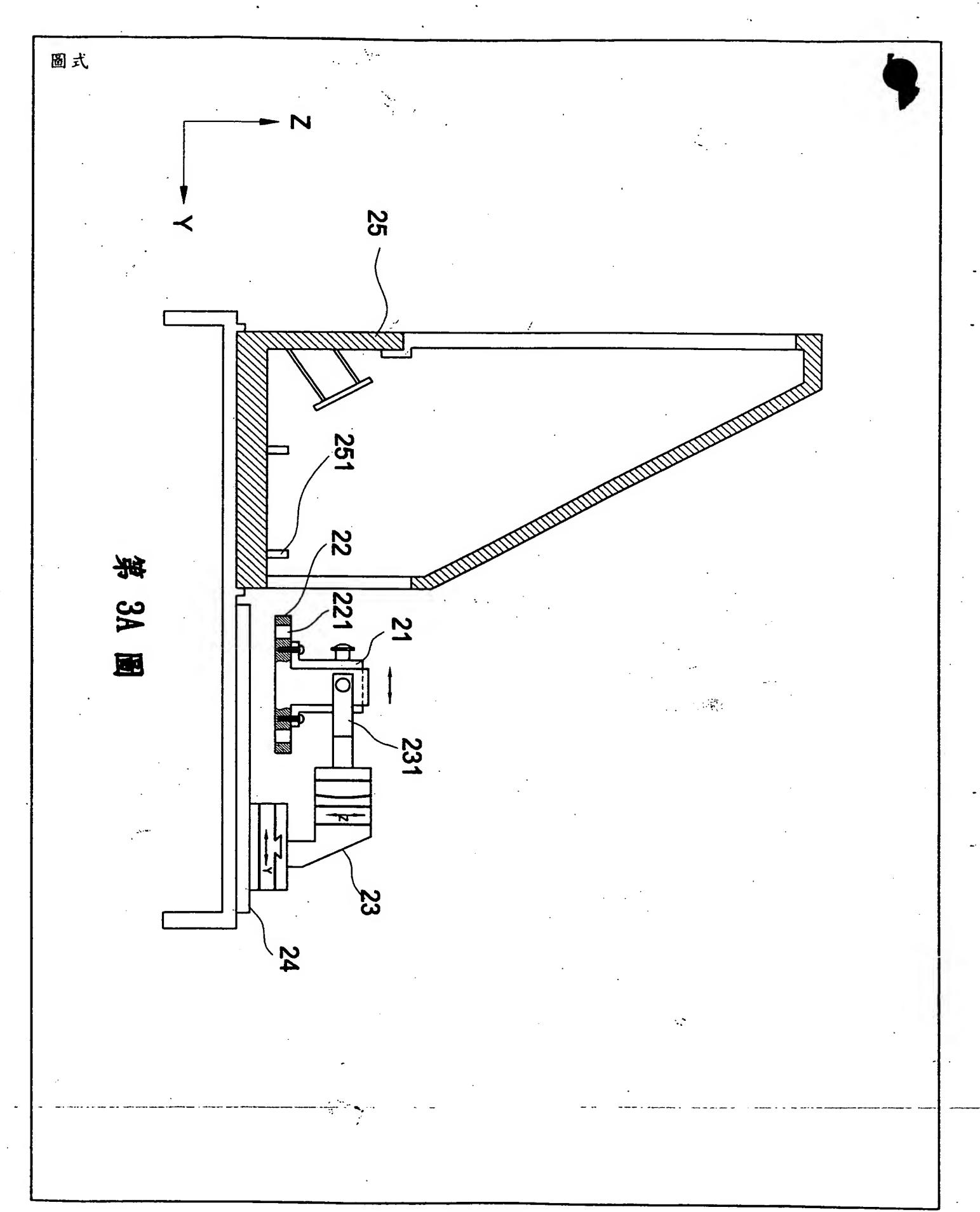


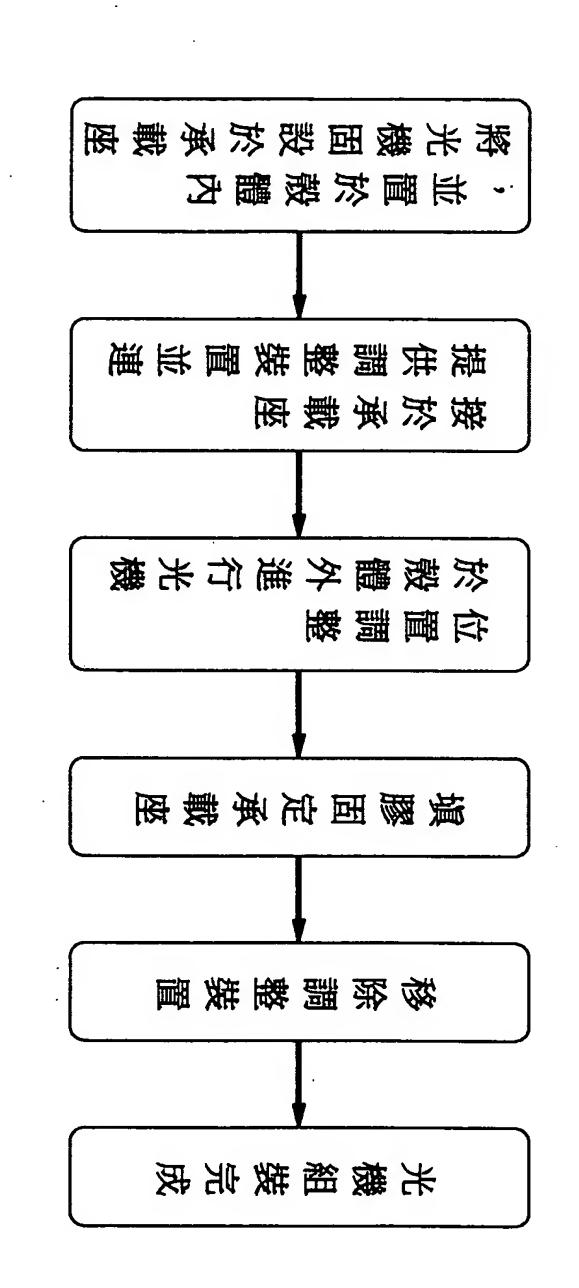
第 1 圖



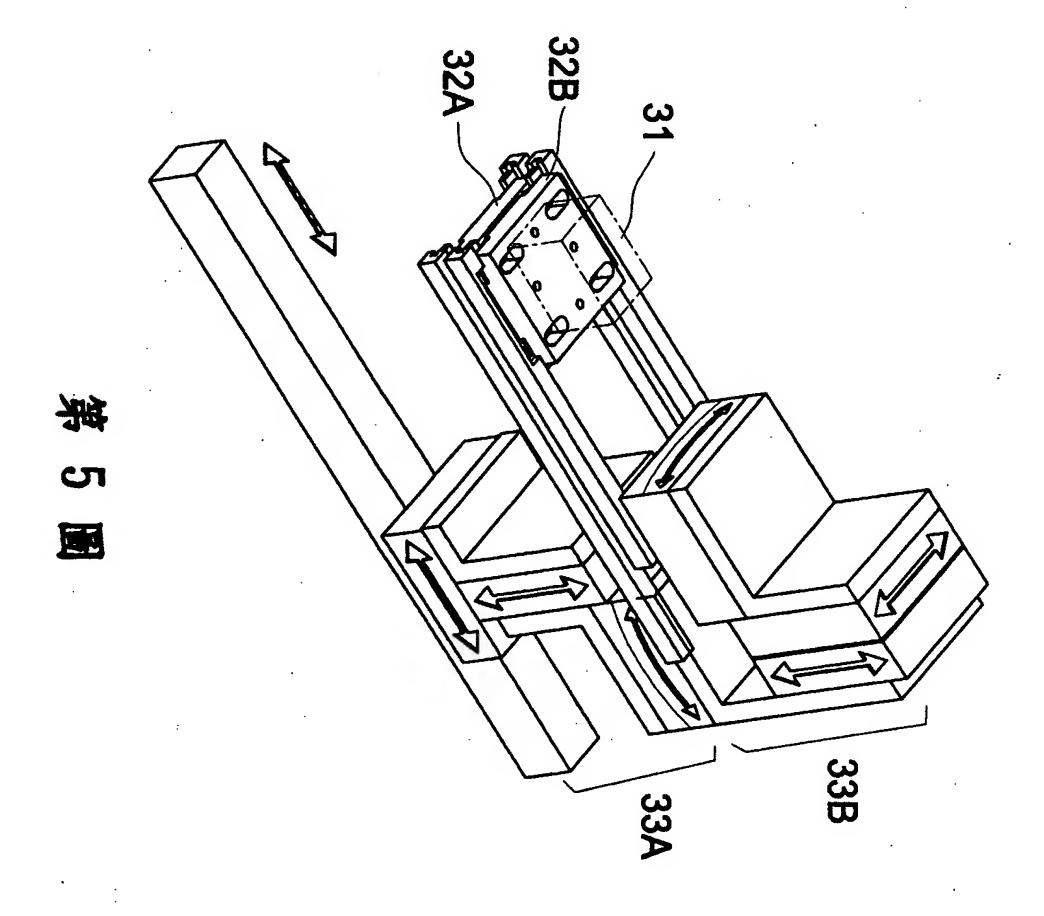
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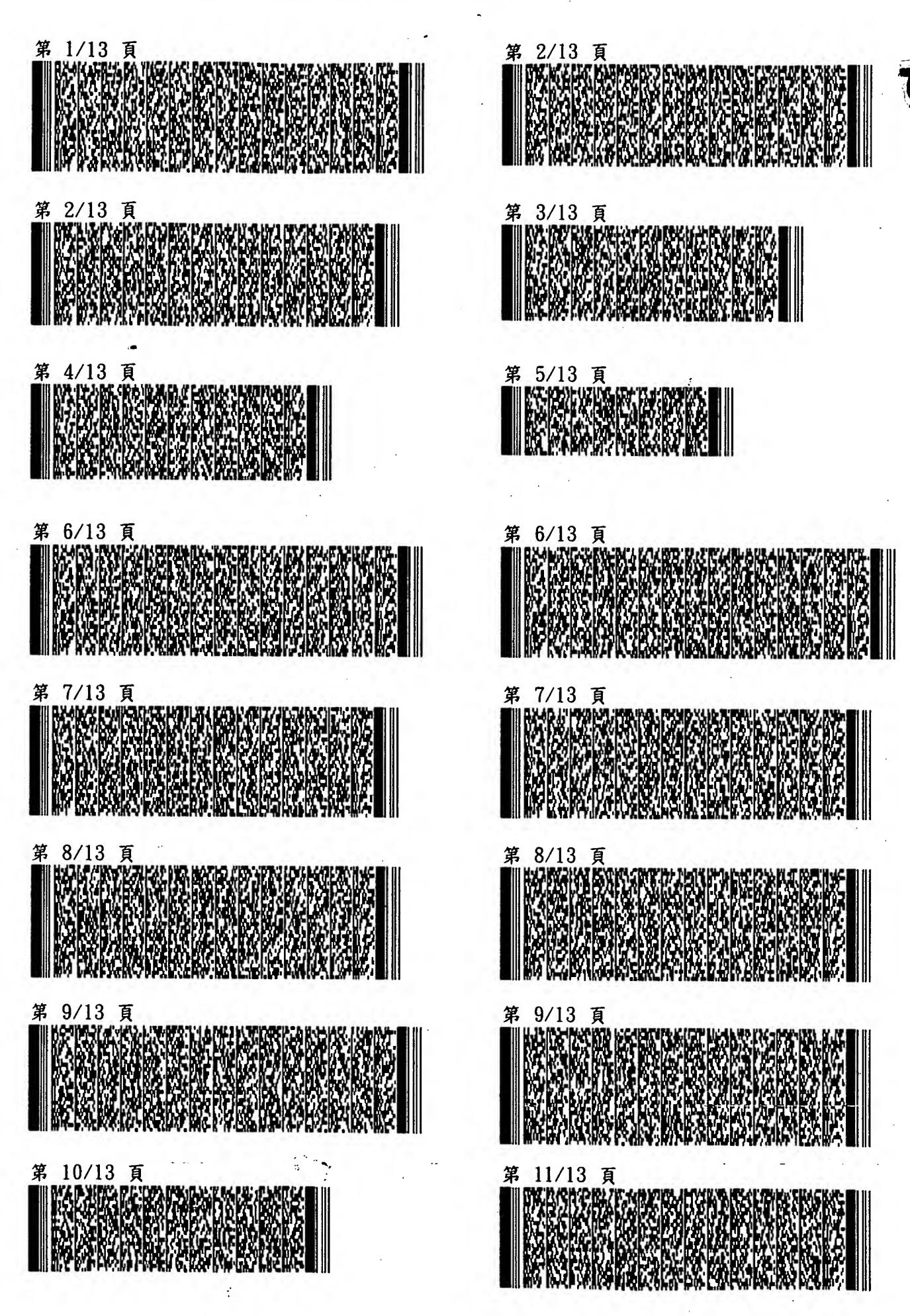
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第一个





申請案件名稱:光機組裝方法及裝置





